



Sri Lanka Institute of Information Technology

B.Sc. (Hons) in Information Technology

Year 2 Semester 1

Database Design And Development
(IT2140)

Assignment 01

web based hotel reservation for tourists

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Web-Based Hotel Reservation System for Tourists (Requirement Document)

1. System Purpose

The Web-Based Hotel Reservation System for Tourists is designed to provide a comprehensive online platform that enables tourists to search, view, and book hotel accommodations efficiently. The system aims to streamline the hotel booking process by offering real-time availability, secure payment processing, and personalized user experiences. It serves as a bridge between tourists seeking accommodation and hotels wanting to reach a broader customer base, ultimately enhancing the tourism experience through convenient and reliable booking services.

2. System Users

2.1 Primary Users

- Tourists/Travelers: Individuals seeking hotel accommodation for leisure or business travel**
- Registered Customers: Repeat users with accounts for faster booking and preference management**

2.2 Secondary Users

- Hotel Managers: Staff responsible for managing hotel information, room availability, and bookings**
- System Administrators: Technical personnel managing the platform, user accounts, and system maintenance**
- Customer Service Representatives: Staff handling customer inquiries, complaints, and booking modifications**

2.3 External Users

- Payment Gateway Services: Third-party payment processors for secure transactions**
- Hotel Chain Corporate Users: Management personnel overseeing multiple hotel properties**

3. Functional Requirements

3.1 User Management

- **FR1: User registration with email verification**
- **FR2: Secure user login and logout functionality**
- **FR3: User profile management (personal information, preferences, travel history)**
- **FR4: Password reset and recovery mechanisms**
- **FR5: Account deactivation and deletion options**

3.2 Hotel Search and Browse

- **FR6: Search hotels by location, dates, number of guests**
- **FR7: Advanced filtering options (price range, star rating, amenities, hotel type)**
- **FR8: Sort search results by price, rating, distance, popularity**
- **FR9: View hotel details (description, photos, amenities, location map)**
- **FR10: Real-time availability checking for selected dates**

3.3 Booking Management

- **FR11: Room selection with different room types and pricing**
- **FR12: Booking confirmation with unique booking reference**
- **FR13: Booking modification and cancellation within policy terms**
- **FR14: Booking history and status tracking**
- **FR15: Email confirmations and notifications for bookings**

3.4 Payment Processing

- **FR16: Secure online payment integration (credit/debit cards, digital wallets)**
- **FR17: Payment confirmation and receipt generation**
- **FR18: Refund processing for eligible cancellations**
- **FR19: Multiple currency support for international tourists**

3.5 Review and Rating System

- **FR20: Customer reviews and ratings for hotels**
- **FR21: Photo uploads with reviews**
- **FR22: Review moderation and spam filtering**
- **FR23: Hotel response to customer reviews**

3.6 Administrative Functions

- **FR24: Hotel information management (details, photos, room inventory)**
- **FR25: Pricing and availability management**
- **FR26: Booking reports and analytics**
- **FR27: Customer management and communication tools**
- **FR28: System monitoring and maintenance tools**

4. Non-Functional Requirements

4.1 Performance Requirements

- **NFR1: System response time should not exceed 3 seconds for search queries**
- **NFR2: Support concurrent access for up to 10,000 users**
- **NFR3: 99.9% system uptime availability**
- **NFR4: Database queries should execute within 2 seconds**

4.2 Security Requirements

- **NFR5: SSL/TLS encryption for all data transmission**
- **NFR6: PCI DSS compliance for payment processing**
- **NFR7: Strong password policies and multi-factor authentication options**
- **NFR8: Regular security audits and vulnerability assessments**
- **NFR9: Data encryption for sensitive customer information**

4.3 Usability Requirements

- **NFR10: Responsive design compatible with desktop, tablet, and mobile devices**
- **NFR11: Intuitive user interface requiring minimal training**
- **NFR12: Multi-language support for international tourists**
- **NFR13: Accessibility compliance (WCAG 2.1 guidelines)**

4.4 Scalability Requirements

- **NFR14: System architecture should support horizontal scaling**
- **NFR15: Database should handle growth in data volume efficiently**
- **NFR16: Cloud-based infrastructure for global accessibility**

4.5 Reliability Requirements

- **NFR17: Automated daily data backups**
- **NFR18: Disaster recovery plan with maximum 4-hour recovery time**

- **NFR19: Error logging and monitoring systems**
- **NFR20: Graceful handling of system failures with user notifications**

5. Constraints and Assumptions

5.1 Technical Constraints

- **C1: Must integrate with existing hotel management systems**
- **C2: Limited to web-based platform (no native mobile app initially)**
- **C3: Dependent on third-party payment gateway availability**
- **C4: Internet connectivity required for all system functions**
- **C5: Browser compatibility limited to modern browsers (Chrome, Firefox, Safari, Edge)**

5.2 Business Constraints

- **C6: Budget allocation limited to specified project budget**
- **C7: Development timeline constrained to 6-month delivery schedule**
- **C8: Compliance with local tourism and hospitality regulations**
- **C9: Integration with partner hotels within specified geographic regions initially**

5.3 Assumptions

- **A1: Users have basic computer literacy and internet access**
- **A2: Hotels will provide accurate and up-to-date information**
- **A3: Payment gateways will maintain consistent service availability**
- **A4: Legal frameworks for online bookings remain stable**
- **A5: Target market has access to standard payment methods (credit cards, digital wallets)**

5.4 Environmental Constraints

- **C10: System must operate across different time zones**
 - **C11: Compliance with international data protection regulations (GDPR, local privacy laws)**
 - **C12: Support for various currencies and regional pricing models**
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